IN THE CLAIMS

Please amend the claims as follows:

Claims 1-38 (Canceled).

Claim 39 (Currently Amended): A process for determining catalytic properties of individual building blocks of a material library disposed in a substrate, the process comprising:

introducing a starting material to the building blocks for carrying out a chemical or physical or chemical and physical conversion of the starting material and obtaining for each building block an effluent stream containing a conversion product and/or the starting material;

simultaneously measuring, with a first sensor, a temperature or temperature change of each building block; and

determining, automatically by a data processing system, which of the building blocks to include in a subset of the building blocks by comparing the temperature or temperature change with a predetermined limit value, the subset including fewer than all of the building blocks measured with the first sensor; and

measuring, with a further sensor, a further parameter which is indicative of the selectivity of each of the building blocks in only the subset, wherein the selectivity is measured in the respective effluent streams by determining the concentration of the desired product, or the concentration of the parallel products and the residual concentration of the starting materials.

Claim 40 (Canceled).

Claim 41 (Previously Presented): A process according to claim 39, further comprising, before the simultaneous measuring step, a step of producing the material library.

Claims 42-43 (Canceled).

Claim 44 (Previously Presented): A process according to claim 39, wherein a portion of each effluent stream from each building block of the subset is passed to the further sensor via a sniffing capillary positioned in the effluent stream by means of a suitable drive means.

Claim 45 (Previously Presented): A process according to claim 44, wherein the drive means is controlled automatically by the data processing system.

Claims 46-47 (Canceled).

Claim 48 (Previously Presented): A process according to claim 39, wherein the first sensor is an infrared thermography camera, wherein the temperature or temperature change of each building block is measured thermographically by the camera.

Claim 49 (Canceled).

Claim 50 (Previously Presented): A process according to claim 48, wherein, in the simultaneously measuring step, the camera measures the temperatures of the building blocks simultaneously.

Claim 51 (Previously Presented): A process according to claim 39, wherein the further sensor is based on a method selected from the group consisting of mass spectrometry, gas chromatography, gas chromatography/mass spectroscopy, Raman spectroscopy, and FT-IR spectroscopy, and the step of measuring with a further sensor includes passing a portion of an effluent stream of each building block of the subset to the further sensor for analysis by the further sensor.

Claim 52 (Previously Presented): A process according to claim 39, wherein the material library is disposed in a substrate that comprises a tube bundle reactor or heat exchanger and has channels in which the building blocks are located.

Claim 53 (Previously Presented): A process according to claim 39, wherein the material library is disposed in a substrate comprising a block of a solid material which has channels.

Claim 54 (Canceled).

Claim 55 (Previously Presented): A process according to claim 39, wherein the building blocks are heterogeneous catalysts and/or their precursors.

Claim 56 (Previously Presented): A process according to claim 55, wherein the building blocks are inorganic heterogeneous catalysts and/or their precursors.

Claim 57 (Previously Presented): A process according to claim 39, wherein the building blocks are solid catalysts or supported catalysts and/or their precursors.

Claim 58 (Previously Presented): A process according to claim 57, wherein each building block is present as a catalyst bed, tube-wall coating or auxiliary support coating.

Claim 59 (Previously Presented): A process according to claim 39, wherein the temperature or temperature change is indicative of the activity of the respective building blocks such that the step of determining which building blocks to include in the subset includes determining which of the building blocks has catalytic activity above a predetermined threshold.

Claim 60 (Cancelled):

Claim 61 (Previously Presented): A process according to claim 39, further comprising, before the simultaneous measuring step, a step of introducing to the building block a starting material that can undergo any of the following:

decomposition of nitrogen oxides, synthesis of ammonia, oxidation of ammonia, oxidation of hydrogen sulphide to sulphur, oxidation of sulphur dioxide, direct synthesis of methylchlorosilanes, oil refining, oxidative coupling of methane, methanol synthesis, hydrogenation of carbon monoxide and carbon dioxide, conversion of methanol to hydrocarbons, catalytic reforming, catalytic cracking and hydrocracking, coal gasification and liquefaction, heterogeneous photocatalysis, synthesis of ethers, isomerizations, alkylations, aromatizations, dehydrogenations, hydrogenations, hydroformylations, selective or partial oxidations, aminations, halogenations, nucleophilic aromatic substitutions, addition and elimination reactions, dimerizations, oligomerizations and metathesis polymerizations, enantioselective catalysis and biocatalytic reactions.

Claim 62 (Currently Amended): An apparatus comprising:

means for receiving building blocks;

means for introducing a starting material to the building blocks;

a first sensor for measuring a temperature or a temperature change of the building blocks;

a second sensor for measuring a second parameter which is indicative of the selectivity of only a subset of the building blocks, the subset including fewer than all of the building blocks; and a data processing device that selects the building blocks to be included in the subset by comparing the first parameter with a predetermined limit value; and further comprise a drive means and a sniffing capillary, the drive means being ~~configured~~ controlled automatically by the data processing device to position the sniffing capillary to receive the effluent stream of each building block of the subset, and the sniffing capillary being configured to conduct the effluent streams to the second sensor.

Claims 63-64 (Canceled).

Claim 65 (Previously Presented): An apparatus according to claim 62, wherein the first sensor is an infrared camera.

Claim 66 (Previously Presented): An apparatus according to claim 62, wherein the second sensor is based on a method selected from the group consisting of mass spectrometry, gas chromatography, gas chromatography/mass spectroscopy, Raman spectroscopy, and FT-IR spectroscopy.

Claim 67 (Previously Presented): An apparatus according to claim 66, wherein the second sensor is a quadrupole mass spectrometer.

Claim 68 (Cancelled):

Claim 69 (Previously Presented): An apparatus according to claim 62, wherein the means for receiving has a planar arrangement having a wire grid or foamed ceramic.

Claim 70 (Previously Presented): An apparatus according to claim 62, further comprising a housing in which the means for receiving is disposed.

Claim 71 (Previously Presented): An apparatus according to claim 70, further comprising means for heating and/or cooling the housing.

Claim 72 (Previously Presented): An apparatus according to claim 70, wherein the housing has an IR-transparent window, and an infrared camera is disposed outside the housing in front of the IR-transparent window.

Claim 73 (Previously Presented): An apparatus according to claim 62, wherein the means for receiving comprises a block made of electrically conductive material with channels, said block being heatable by resistance heating.

Claim 74 (Previously Presented): An apparatus according to claim 73, wherein each channel comprises a carrier.

Claim 75 (Previously Presented): An apparatus as deflined in claim 74, wherein the carriers are synthesized into the channels.

Claim 76 (Previously Presented): An apparatus according to claim 74, wherein each carrier and/or channel supports a building block.

Claims 77-78 (Canceled).